

In the Claims:

1. (Currently Amended) A system, comprising:
a camera to obtain an image of a cargo space; and
an image evaluator to recognize lines within the image, and to evaluate the
lines for indications of argo-cargo; and
a projection pattern image library comprising a projection pattern image;
wherein the image evaluator is configured to compare the image to the
projection pattern image.
2. (Original) The system of claim 1, wherein the camera comprises an
infrared (IR) imaging device.
3. (Original) The system of claim 1, wherein the lines include straight
lines or curves.
4. (Original) The system of claim 1, wherein the indications are
selected from a group consisting of:
slope of at least one of the recognized lines;
change in brightness along at least one of the recognized lines; and
discontinuity in at least one of the recognized lines.

1 5. (Original) The system of claim 1, additionally comprising:
2 a projection pattern generator to trace a laser over a projection pattern
3 within the cargo space, wherein the projection pattern comprises the lines within
4 the image.

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6 6. (Original) The system of claim 5, wherein the laser and the camera
7 are separately located to enhance the camera's perspective to view of slope of at
8 least one of the recognized lines.

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10 7. (Original) The system of claim 1, additionally comprising:
11 an edge detection module to detect edges of surfaces defining the cargo
12 space, wherein the edges comprise the lines within the image.

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14 8. (Currently Amended) The system of claim 1, ~~additionally~~
15 ~~comprising:~~

16 ~~a projection pattern image library comprising a projection pattern image;~~
17 ~~and~~

18 ~~wherein the image evaluator is configured to compare the image to the~~
19 ~~projection pattern image wherein evaluating the lines comprises recognizing two~~
20 different distances between portions of two lines is an indication of cargo.
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1 9. (Currently Amended) A processor-readable medium comprising
2 processor-executable instructions for:

3 sensing lines within an image of a cargo space;

4 evaluating the lines; and

5 basing an indication of presence of cargo on the ~~evaluation-evaluation~~;

6 wherein the evaluating comprises instructions for:

7 measuring distances between lines within a projection pattern; and

8 determining if the measured distances indicate the presence of cargo.

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10 10. (Original) A processor-readable medium as recited in claim 9,
11 wherein the lines are formed by instructions for tracing a laser over a pattern
12 within the cargo space.

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14 11. (Original) A processor-readable medium as recited in claim 9,
15 wherein the lines are formed by instructions for intersection of planes defining the
16 cargo space.

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18 12. (Cancel)

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20 13. (Original) A processor-readable medium as recited in claim 9,
21 wherein the evaluating comprises instructions for measuring slope of lines within
22 a projection pattern.

1 **14.** (Original) A processor-readable medium as recited in claim 9,
2 wherein the evaluating comprises instructions for reviewing lines within a
3 projection pattern for breaks in continuity.

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5 **15.** (Original) A processor-readable medium as recited in claim 9,
6 wherein the evaluating comprises instructions for measuring uniformity of
7 brightness of lines within a projection pattern.

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9 **16.** (Currently Amended) A processor-readable medium comprising
10 processor-executable instructions for:

11 forming a pattern within a cargo space using a laser and lines formed by
12 intersection of planes forming the cargo space;

13 obtaining an image of the pattern;

14 analyzing the image, wherein the analyzing comprises measuring distances
15 between lines within the pattern and comparing the measurements to expected
16 measurements; and

17 basing an indication of cargo presence on the analysis.

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19 **17.** (Original) A processor-readable medium as recited in claim 16,
20 wherein the forming comprises instructions for comparing the image to images
21 within a projection pattern image library.

1 **18.** (Original) A processor-readable medium as recited in claim 16,
2 wherein the obtaining comprises instructions for operating a camera to capture the
3 image.

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5 **19.** (Cancel)

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7 **20.** (Original) A processor-readable medium as recited in claim 16,
8 wherein the analyzing comprises instructions for recognizing a slope change, in a
9 line within the pattern, indicating cargo presence.

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11 **21.** (Original) A processor-readable medium as recited in claim 16,
12 wherein the analyzing comprises instructions for recognizing brightness change, in
13 a line within the pattern, indicating cargo presence.

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15 **22.** (Original) A processor-readable medium as recited in claim 16,
16 wherein the analyzing comprises instructions for recognizing discontinuities, in a
17 line within the pattern, indicating cargo presence.

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19 **23.** (Currently Amended) A cargo sensing device, comprising:
20 means for defining a ~~projection~~-pattern within a cargo space, wherein the
21 pattern is formed by projection and by lines formed by intersection of planes
22 forming the cargo space;

23 means for obtaining an image of the projection pattern;
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1 means for measuring distortion of the projection pattern within the image;
2 and
3 means for comparing the distortion to a threshold value.
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5 **24.** (Original) The cargo sensing device of claim 23, wherein the means
6 for comparing is a means selected from a group consisting of:

7 means for recognizing slope of at least one of the recognized lines
8 indicating cargo presence;

9 means for recognizing change in brightness along at least one of the
10 recognized lines indicating cargo presence; and

11 means for recognizing discontinuity in at least one of the recognized lines
12 indicating cargo presence.
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14 **25.** (Original) The cargo sensing device of claim 23, wherein the
15 projection pattern is defined by lines resulting from intersection of planes defining
16 the cargo space.
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18 **26.** (Original) The cargo sensing device of claim 23, wherein the means
19 for measuring distortion measures distances between lines within the projection
20 pattern.
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1 **27.** (Original) The cargo sensing device of claim 23, wherein the means
2 for measuring distortion to the projection pattern recognizes discontinuities in
3 lines within the projection pattern.

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5 **28.** (Original) The cargo sensing device of claim 23, wherein the means
6 for measuring distortion compares the image of the projection pattern to images
7 within projection pattern image library.

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9 **29.** (Currently Amended) A method of determining cargo presence,
10 comprising:

11 defining a ~~projection~~-pattern within a cargo space, wherein the pattern is
12 formed by projection and by lines formed by intersection of planes forming the
13 cargo space;

14 capturing an image of the projection pattern with a camera;

15 evaluating lines within the projection pattern for evidence of cargo; and

16 basing an indication of cargo presence on the evaluation.

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18 **30.** (Original) The method of claim 29, wherein the projection pattern is
19 defined by tracing over a pattern repeatedly with a laser.

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21 **31.** (Original) The method of claim 29, wherein the projection pattern is
22 defined by intersection of planes defining the cargo space.

1 32. (Original) The method of claim 29, wherein the evaluating
2 comprises evaluating lines in the projection pattern for discontinuities.

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4 33. (Original) The method of claim 29, wherein the evaluating
5 comprises evaluating lines in the projection pattern for changes in brightness.

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7 34. (Original) The method of claim 29, wherein the evaluating
8 comprises evaluating lines in the projection pattern for changes in slope.

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10 35. (Original) The method of claim 29, wherein the evaluating
11 comprises:

12 measuring distance between the lines within the projection pattern; and
13 determining if the measured distance is within a threshold of an appropriate
14 value.

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16 36. (Currently Amended) A method, comprising:
17 ~~projecting-forming~~ an optical pattern within a cargo space, wherein the
18 pattern is formed by projection and by lines formed by intersection of planes
19 forming the cargo space; and

20 analyzing the optical pattern to determine whether cargo is present within
21 the cargo space.

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23 37. (Original) The method of claim 36, wherein the optical pattern is
24 defined by tracing with a laser.
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2 **38.** (Original) The method of claim 36, wherein the analyzing comprises
3 detecting differences in brightness between parts of the optical pattern.

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5 **39.** (Original) The method of claim 36, wherein the analyzing comprises
6 evaluating lines in the optical pattern for unexpected slopes.

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8 **40.** (Original) The method of claim 36, wherein the analyzing
9 comprises:
10 measuring distances between lines within the optical pattern; and
11 comparing the distances to an expected distance.

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13 **41.** (Original) The method of claim 36, wherein the analyzing
14 comprises:
15 detecting laser lines within the image; and
16 comparing the laser lines detected to a projection pattern image library.

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18 **42.** (Original) The method of claim 36, wherein the analyzing comprises
19 comparing the optical pattern to images within a projection pattern image library.

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21 **43.** (Original) The method of claim 36, wherein the analyzing comprises
22 comparing the optical pattern to a projection pattern image library comprising
23 images of empty cargo areas and cargo-containing cargo areas.
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